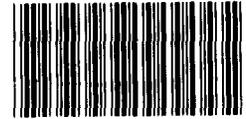


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FOR RELEASE ON DELIVERY
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APRIL 6, 1982

STATEMENT OF
HENRY ESCHWEGE, DIRECTOR
COMMUNITY AND ECONOMIC DEVELOPMENT DIVISION

BEFORE THE
SUBCOMMITTEE ON ENVIRONMENT, ENERGY
AND NATURAL RESOURCES
HOUSE COMMITTEE ON GOVERNMENT OPERATIONS



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ON THE
CORPS OF ENGINEERS BENEFIT-COST ANALYSIS FOR
THE ELK CREEK PROJECT

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

WE ARE HERE TODAY AT YOUR REQUEST TO DISCUSS THE RESULTS OF OUR REVIEW OF THE CORPS OF ENGINEERS' (CORPS) BENEFIT-COST ANALYSIS FOR THE ELK CREEK PROJECT IN OREGON. THE REVIEW WAS MADE AT THE REQUEST OF CONGRESSMAN JAMES H. WEAVER AND SEVEN OTHER CONGRESSMEN--BERKLEY W. BEDELL, ROBERT W. EDGAR, FLOYD J. FITHIAN, BARNEY FRANK, RONALD E. PAUL, BUDDY ROEMER, AND JOHN F. SEIBERLING.

LET ME BRIEFLY SUMMARIZE OUR FINDINGS WHICH ARE CONTAINED IN OUR REPORT OF MARCH 15, 1982, ENTITLED "CORPS OF ENGINEERS SHOULD REEVALUATE THE ELK CREEK PROJECT'S BENEFITS AND COSTS" (CED-82-53).

THE CORPS' FISCAL YEAR (FY) 1982 ESTIMATES OF BENEFITS AND COSTS FOR THE ELK CREEK PROJECT SHOW AN EXCESS OF BENEFITS OVER COSTS. HOWEVER, WE QUESTION \$4,168,000, OR 76 PERCENT, OF THE \$5,457,000 ESTIMATED ANNUAL BENEFITS ATTRIBUTED BY THE CORPS TO FLOOD CONTROL, WATER SUPPLY, RECREATION, IRRIGATION, AND AREA REDEVELOPMENT. ALSO, FY 1982 ANNUAL PROJECT COSTS OF \$4,758,000 ARE UNDERSTATED BY \$65,000. THE ATTACHED APPENDIX SUMMARIZES

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THE BENEFITS AND COSTS COMPUTED BY THE CORPS, THE AMOUNTS WE QUESTION, AND THE ADJUSTED AMOUNTS WE BELIEVE ARE SUPPORTABLE.

SOME OF OUR QUESTIONS ARISE FROM DOUBTFUL ASSUMPTIONS OR INCOMPLETE ANALYSIS MADE AT THE TIME THE BENEFITS WERE LAST JUSTIFIED. MOST OF THE BENEFITS QUESTIONED, HOWEVER (58 PERCENT OR \$2,444,000) RELATE TO CHANGING CONDITIONS SINCE THE CORPS' COMPUTATION OF BENEFITS. A CORPS PORTLAND DISTRICT OFFICIAL TOLD US THAT, OTHER THAN PRICE LEVEL CHANGES, THE CORPS DOES NOT REEVALUATE PROJECT BENEFITS AND COSTS EVERY YEAR TO REFLECT CHANGED CONDITIONS BECAUSE IT DOES NOT HAVE THE NECESSARY RESOURCES.

WE REVIEWED THE CORPS' BENEFIT-COST ANALYSIS FOR THE FY 1982 BUDGET WHICH WAS THE LATEST AVAILABLE AT THE TIME OF OUR REVIEW. SUBSEQUENTLY, IN JANUARY 1982 THE CORPS UPDATED ITS ANALYSIS FOR THE FY 1983 BUDGET. THE CORPS' 1982 UPDATE WAS LIMITED TO PRICE LEVEL CHANGES AND DID NOT MATERIALLY CHANGE THE BENEFIT-COST RATIOS.

BACKGROUND

THE ELK CREEK PROJECT IS A MULTIPURPOSE PROJECT BEING BUILT IN JACKSON COUNTY, OREGON, AS PART OF THE ROGUE RIVER BASIN PROJECT AUTHORIZED IN 1962. THE OTHER TWO ELEMENTS OF THE PROJECT--LOST CREEK AND APPELATE LAKES--HAVE BEEN COMPLETED. ELK CREEK IS TO PROVIDE FLOOD CONTROL, WATER SUPPLY, RECREATION, IRRIGATION, AREA REDEVELOPMENT, FISH AND WILDLIFE ENHANCEMENT, AND WATER QUALITY CONTROL BENEFITS.

THE ESTIMATED COST TO CONSTRUCT ELK CREEK HAS INCREASED FROM \$17.5 MILLION AT THE TIME IT WAS AUTHORIZED IN 1962 TO ABOUT \$109 MILLION IN FY 1982 (\$121 MILLION FOR THE FY 1983 BUDGET).

CONSTRUCTION STARTED IN 1971 AND AS OF SEPTEMBER 30, 1981, ABOUT \$9 MILLION HAD BEEN SPENT, PRIMARILY ON DESIGN AND LAND ACQUISITION.

WHEN THE PROJECT WAS AUTHORIZED, THE INITIAL BENEFIT-COST RATIO WAS 1.52 to 1. SUBSEQUENTLY, THE CORPS MADE ANNUAL PRICE LEVEL AND OTHER SELECTED BENEFIT AND COST ADJUSTMENTS WHICH CAUSED THE RATIO TO CHANGE. THE CORPS' COMPUTATION FOR THE FY 1982 BUDGET SHOWED A 1.15 to 1 BENEFIT-COST RATIO WITH AN IRRIGATION DIVERSION PURPOSE AND 1.08 to 1 WITHOUT IT. THE RATIO CHANGED SLIGHTLY FOR THE CORPS' FY 1983 COMPUTATIONS--1.13 TO 1 WITH IRRIGATION AND 1.07 to 1 WITHOUT IT. THE CORPS HAS MADE THE TWO SEPARATE COMPUTATIONS BECAUSE THE ORIGINAL BENEFIT ASSOCIATED WITH IRRIGATION WAS WITHDRAWN IN 1975 WHEN THE DEPARTMENT OF THE INTERIOR'S BUREAU OF RECLAMATION FOUND THE IRRIGATION PLAN TO BE NO LONGER ECONOMICALLY FEASIBLE.

FLOOD CONTROL

ANNUAL FLOOD CONTROL BENEFITS ACCOUNT FOR \$3,685,000, OR 68 PERCENT OF TOTAL PROJECT BENEFITS. WE QUESTION \$2,790,000, OR 76 PERCENT, OF THESE BENEFITS. FLOOD CONTROL BENEFITS DEVELOPED IN 1974 DO NOT REFLECT A SUBSEQUENT LOWER POTENTIAL POPULATION AND PROPERTY VALUE GROWTH RATE AND MORE STRINGENT FLOOD PLAIN ZONING LAWS ENACTED BY LOCAL GOVERNMENTS IN THE ELK CREEK FLOOD PLAIN AREA. ALSO, CONTRARY TO APPLICABLE BENEFIT-COST PROCEDURES, THE CORPS REPORTED THESE BENEFITS ON A SYSTEM RATHER THAN ON AN INCREMENTAL BASIS.

WHEN COMPUTING FLOOD CONTROL BENEFITS, THE CORPS USED A POPULATION AND PROPERTY VALUE GROWTH RATE OF 3.7 PERCENT IN 1974 BECAUSE THIS WAS THE RATE USED FOR NEARBY APPLGATE. THE TWO

COUNTIES INVOLVED IN APPLGATE ARE ALSO INVOLVED IN ELK CREEK. HOWEVER, CORPS REGULATIONS AS OF 1978 REQUIRE THAT GROWTH RATES BE DEVELOPED USING CERTAIN PROJECTIONS OF ECONOMIC ACTIVITY IN THE UNITED STATES, PUBLISHED BY THE WATER RESOURCES COUNCIL FOR USE IN WATER RESOURCE PLANNING. CORPS DOCUMENTS BASED ON THIS DATA SHOW AN ANNUAL GROWTH RATE OF 2.8 PERCENT FOR THE ELK CREEK AREA.

THE GROWTH RATE USED TO PREDICT FUTURE GROWTH IN A FLOOD PLAIN AND ITS RESULTING INCREASED PROPERTY VALUES IS AFFECTED BY LOCAL FLOOD PLAIN ZONING ORDINANCES IN EFFECT. LOCAL GOVERNMENTS WHOSE AREAS WOULD BE AFFECTED BY ELK CREEK HAVE ENACTED FLOOD PLAIN ZONING ORDINANCES TO RESTRICT DEVELOPMENT IN THE FLOOD PLAIN. THE CORPS' ORIGINAL GROWTH RATE OF 4.15 PERCENT WAS REDUCED TO 3.7 PERCENT IN 1974 TO REFLECT THESE RESTRICTIONS. SUBSEQUENTLY, HOWEVER, BETWEEN 1978 AND 1981, LOCAL FLOOD PLAIN ZONING ORDINANCES WERE REVISED AGAIN AND MADE MORE STRINGENT THAN THE RESTRICTIONS CONSIDERED EARLIER BY THE CORPS.

APPLICABLE PROCEDURES DEFINE BENEFITS AS THE INCREASES IN THE VALUE OF GOODS AND SERVICES WHICH RESULT FROM CONDITIONS WITH THE PROJECT COMPARED TO CONDITIONS WITHOUT THE PROJECT. PROPER APPLICATION OF THIS CRITERIA WOULD HAVE RESULTED IN A DETERMINATION OF THE SPECIFIC OR INCREMENTAL BENEFITS THAT EACH PROJECT IS ESTIMATED TO CONTRIBUTE. HOWEVER, THE CORPS' COMPUTATION OF FLOOD CONTROL BENEFITS TREATED ELK CREEK AS AN INTEGRAL PART OF A THREE-DAM SYSTEM, EVEN THOUGH THE OTHER TWO DAMS WERE COMPLETED IN 1977 AND 1980 AND ARE NOW OPERATING. UNDER THE INCREMENTAL APPROACH, ONLY ADDED BENEFITS ATTRIBUTABLE TO ELK CREEK WOULD BE CONSIDERED. BY USING THE SYSTEMS APPROACH,

CONTRARY TO CURRENT PROCEDURES, A MUCH HIGHER FLOOD CONTROL BENEFIT WAS CLAIMED FOR ELK CREEK.

MUNICIPAL AND INDUSTRIAL
WATER SUPPLY

THE CORPS ESTIMATED THE ELK CREEK PROJECT'S ANNUAL MUNICIPAL AND INDUSTRIAL (M&I) WATER SUPPLY BENEFITS AT \$621,000, OR 11 PERCENT OF TOTAL BENEFITS. WE QUESTION THIS BENEFIT BECAUSE WATER NEEDS PREDICTED BY THE COMMUNITIES INVOLVED WERE NOT SUPPORTED. THE CORPS DID NOT ANALYZE THE COMMUNITIES' PROJECTED WATER NEEDS AS REQUIRED BY ITS REGULATIONS.

THE CORPS REPORTED IN 1980 THAT SEVEN ROGUE RIVER BASIN COMMUNITIES NEEDED 21,585 ACRE-FEET OF M&I STORAGE AT LOST CREEK AND ELK CREEK. HOWEVER, ONLY TWO OF THE SEVEN COMMUNITIES HAVE A REASONABLE BASIS FOR ASKING FOR 2,600 ACRE-FEET OF STORAGE. THE OTHER COMMUNITIES PROJECTED NEEDS FOR THIS WATER WERE, AMONG OTHER THINGS, BASED ON UNREALISTIC POPULATION GROWTH RATE PREDICTIONS OR DOUBLE COUNTED BY THE CORPS.

RECREATION

ANNUAL RECREATION BENEFITS ACCOUNT FOR \$619,000, OR 11 PERCENT OF TOTAL PROJECT BENEFITS. WE QUESTION \$355,000, OR ABOUT 57 PERCENT, OF THESE BENEFITS BECAUSE (1) THE CORPS DEVELOPED THESE BENEFITS IN 1973 AND 1974 ON THE BASIS OF NOW OUTDATED RECREATION USE PATTERNS, (2) FEDERAL, STATE, AND LOCAL AGENCIES MAY BE LESS ABLE TO OPERATE RECREATION FACILITIES BECAUSE OF STAFF AND FUNDING CUTS, AND (3) SOME BENEFITS ARE BASED ON A DISCARDED IRRIGATION PLAN.

BENEFIT-COST PROCEDURES ALLOW, BUT DO NOT REQUIRE, RECREATION BENEFIT ESTIMATES TO BE BASED ON DEMAND. ESTIMATED DEMAND IS BASED ON POPULATION PROJECTIONS OVER THE LIFE OF THE PROJECT AND THE

APPLICATION OF RECREATION USE RATES. HOWEVER, THE CORPS USED CAPACITY INSTEAD OF DEMAND TO ESTIMATE RECREATION BENEFITS FOR ELK CREEK. IN COMPUTING ELK CREEK BENEFITS IN 1974, THE CORPS PORTLAND DISTRICT ASSUMED THAT ANY FACILITIES BUILT WOULD BE FULLY USED. RECREATION FACILITIES AND NOT DEMAND WERE A LIMITING FACTOR FOR LOST CREEK AND APLEGATE. SINCE THEN, ACTUAL ATTENDANCE FOR 13 RESERVOIRS OPERATING IN THE CORPS PORTLAND DISTRICT HAS DECREASED DRASTICALLY.

IF RECREATION BENEFITS FOR ELK CREEK ARE DETERMINED BY USING CURRENT DATA ON ACTUAL RECREATION USE AND PROJECTED DEMAND AS PERMITTED BY PROCEDURES, BENEFITS FOR ELK CREEK WOULD BE REDUCED BY \$258,000.

ONCE RECREATION FACILITIES ARE BUILT, THEY MUST BE OPERATED AND MAINTAINED. FUNDING PROBLEMS MAKE IT QUESTIONABLE, HOWEVER, WHETHER ELK CREEK PARK AREAS CAN BE KEPT OPEN. JACKSON COUNTY WITHDREW FROM ITS ORIGINAL AGREEMENT TO OPERATE ELK CREEK. THE BUREAU OF LAND MANAGEMENT HAD DISCUSSED OPERATING ELK CREEK RECREATION FACILITIES WITH THE CORPS, BUT LATER WITHDREW, IN PART, BECAUSE OF A LACK OF FUNDS. ALSO, THE CORPS' PORTLAND DISTRICT ENGINEER ANNOUNCED ON FEBRUARY 18, 1982, THAT 15 CORPS RECREATION AREAS IN OREGON AND WASHINGTON WERE BEING CLOSED AND 24 OTHERS WOULD BE OPERATED WITH REDUCED MAINTENANCE OR ON A LIMITED BASIS. FOUR OF THE RECREATION AREAS INVOLVED ARE AT LOST CREEK LAKE.

QUESTIONABLE RECREATION BENEFITS OF \$97,000 ARE ATTRIBUTABLE TO THE BUREAU OF RECLAMATION'S IRRIGATION PLAN WHICH HAS BEEN DISCARDED.

OTHER BENEFITS

LET ME BRIEFLY DISCUSS THE CORPS' ESTIMATES OF ELK CREEK'S BENEFITS OF IRRIGATION, AREA REDEVELOPMENT, AND FISH AND WILD-LIFE ENHANCEMENT.

IRRIGATION BENEFIT ESTIMATES OF \$341,000 ANNUALLY WERE BASED ON AN IRRIGATION PLAN DISCARDED IN 1975 BY THE BUREAU BECAUSE IT WAS NO LONGER ECONOMICALLY FEASIBLE. THE ESTIMATE CONSISTS OF DIRECT IRRIGATION BENEFITS OF \$93,000 AND INDIRECT BENEFITS OF \$248,000 DISTRIBUTED AMONG THREE OTHER BENEFIT CATEGORIES--WATER QUALITY (\$119,000), RECREATION (\$97,000), AND FISH AND WILDLIFE ENHANCEMENT (\$32,000).

AREA REDEVELOPMENT BENEFITS OF \$153,000 ANNUALLY WERE COMPUTED FOR TWO COUNTIES--THE COUNTY IN WHICH ELK CREEK IS TO BE CONSTRUCTED AND A NEIGHBORING COUNTY. BOTH COUNTIES INITIALLY QUALIFIED FOR THE BENEFIT. SUBSEQUENTLY, THE UNEMPLOYMENT RATE IN THE COUNTY IN WHICH ELK CREEK IS TO BE CONSTRUCTED BECAME TOO LOW TO QUALIFY FOR THE BENEFIT. ALSO, NEIGHBORING COUNTIES WERE DETERMINED TO BE NO LONGER ELIGIBLE FOR THE BENEFIT.

WE ARE NOT QUESTIONING THE FISH AND WILDLIFE BENEFITS OTHER THAN THOSE RELATED TO IRRIGATION. HOWEVER, SOME FEDERAL AND STATE AGENCIES HAVE EXPRESSED CONCERN ABOUT THE POSSIBLE ADVERSE EFFECTS OF ELK CREEK ON WATER QUALITY AND THE FISHERY IN THE ROGUE RIVER. BASED ON ITS STUDIES, THE CORPS HAS CONCLUDED THAT THE ELK CREEK PROJECT WOULD NOT HAVE A SIGNIFICANT IMPACT ON THE ROGUE RIVER FISHERY.

PROJECT COSTS

FOR FY 1982 THE CORPS ESTIMATED THAT IT WOULD COST \$108,754,000 TO CONSTRUCT ELK CREEK. ANNUAL COSTS OVER THE

100-YEAR PROJECT LIFE FOR INTEREST AND AMORTIZATION, OPERATION AND MAINTENANCE, AND OTHER COSTS ARE ESTIMATED AT \$4,758,000. THESE COSTS ARE UNDERSTATED BY \$65,000 BECAUSE, CONTRARY TO APPLICABLE BENEFIT-COST PROCEDURES, COSTS ASSOCIATED WITH INTEREST ON CONSTRUCTION EXPENDITURES AND THE ACQUISITION OF PROJECT LAND AND TIMBER WERE NOT UPDATED.

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IN SUMMARY, WE BELIEVE THE ISSUES WE IDENTIFIED CAN HAVE A SUBSTANTIAL IMPACT ON THE BENEFITS AND COSTS WHICH THE CORPS CLAIMED FOR ELK CREEK. WE RECOMMENDED THAT THE CORPS RESOLVE THESE MATTERS AND RECALCULATE PROJECT BENEFITS AND COSTS SO THAT WHEN FURTHER FUNDING IS BEING CONSIDERED, THE CONGRESS WILL HAVE CURRENT INFORMATION ON THE ECONOMIC FEASIBILITY OF THE ELK CREEK PROJECT.

MR. CHAIRMAN, THIS CONCLUDES MY STATEMENT. WE WILL BE PLEASED TO RESPOND TO YOUR QUESTIONS.

SUMMARY OF ELK CREEK'S FISCAL YEAR 1982AVERAGE ANNUALIZED BENEFITS AND COSTS (note a)

<u>Benefit category</u>	Corps estimate with irrigation diversion	Amount questioned by GAO	Adjusted amount based on GAO review
----- (000 omitted) -----			
Flood control	\$3,685	\$2,790	\$ 895
Water supply	621	621	0
Recreation	619	355	264
Irrigation	93	93	0
Area redevelopment	153	153	0
Fish and wildlife enhancement	167	37	130
Water quality	<u>119</u>	<u>119</u>	<u>0</u>
Total	<u>5,457</u>	<u>4,168</u>	<u>1,289</u>
<u>Cost category</u>			
Interest and amortization	3,685	65	3,750
Operation and maintenance	581	0	581
Replacements	52	0	52
Other economic costs	<u>531</u>	<u>0</u>	<u>531</u>
Total	<u>4,849</u>	<u>65</u>	<u>4,914</u>
Less nonreimburs- able roads	91	0	91
Total annual cost for benefit- cost ratio	<u>\$4,758</u>	<u>\$ 65</u>	<u>\$4,823</u>
Benefit-cost ratio	1.15 to 1		(b)

a/All computations are based on a 100-year project life and 3-1/4 percent interest rate.

b/Our objective was not to prepare a benefit-cost analysis of Elk Creek but rather to review the analysis prepared by the Corps. Therefore, any benefit-cost ratio computed based on the benefits and costs we questioned should not be viewed as what we conclude the benefit-cost ratio should be.